UPPER TRISHULI-1 HEP (216MW)			
Client	Doosan Heavy Industries & Construction		
DHI's Subcontractor	Power Construction Corporation of China		
REPLY COMMENT			
Subcontractor	Power Construction Corporation of China		
Incoming Document			
Title of the Document	**Outline Drawing of Inlet Structure of Diversion Tunnel**		
Document/Drawing No.	UT1-C-010-CVL-DG-43008 (3 sheets)	Revision	0A
Review Document No.	**UT1-HEP-DHI-PC-D-0002**	Reviewed Note No.	**RN-0060**
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Previous Reply No.	N/A	Previous Reply Date.	**N/A**
Reply No.	RC-0011	Reply date	**10.03.2022**

General comments regarding annotation of Elevations, Dimensions, Legend, Line types, Hatch types, Center lines, Drawings' name and No., and so on are responded and drawings are revised, please refer to Rev.B.

Some critical issues are replied as follows:

Issue 1: Location of construction joint and water stop

Reply: At the chainage D0+000.00, there is no joint be designed. The inlet/gate slot part is designed as one integral structure with the behind 6m long open and buried "tunnel" by considering the actual overbreak of the inlet portal to maintain general stability of inlet.one expansion joint is set/designed at chainage D0+006.00. please refer to 3D model of inlet structure sketch.

Issue 2: The level of top platform

Reply:

(1) Determination of level of inlet top platform

the level of inlet top platform is taken as 1250.5m, equals to 1244.5m(bottom slab) +5m(height of tunnel)+1m(freeboard)=1250.5m).

(2) analysis on water level when stoplogs closing

According to the construction progress, diversion tunnel plugging is arranged in March, it is recommended that the criterion of block adopts 10-year return period monthly average discharge (about 45.9m^3/s) with corresponding water level of 1245.50m.

Considering 75% dependability of incoming flow of 45.9m^3/s, which is 34.9m^3/s. According to practice, gate closing generally will be completed within 2 hours. Once gate of

diversion tunnel is closed, when/if the gates of weir/dam are closed and reservoir will be inundated to water level of 1255.m within 1.5h. so the gates of weir/dam must be fully opened when putting the stoplogs into the gate slot. The incoming flow will be discharged through the weir/dam sluices, water level will be at 1245.3m, this will provide time and space for closing the diversion tunnel stoplogs.

(3) submergence of inlet structure

During flood season, the U/S cofferdam will be overflowed, water level will be reached to 1260.24m, the diversion tunnel will be submerged in the water, this is under the design consideration.

Issue 3: Stoplog installation

The AH has confirmed that, the stoplog has been used on the inlet structure. During the installation, PC will try their best to assist AH installation (excavator hoisting may be adopted). The gate was installed after the cofferdam was removed during the dry period, otherwise there would be no way for water to circulate after the gate closed the entrance to the diversion tunnel. According to the hydrological data and actual field measurement, in dry season the water level at the inlet of the diversion tunnel is about 1245.5m without cofferdam, which will not affect the installation operation. The More detailed installation method statement will be provided by Andriz.

Issue 4: The transition section

Reply: The flow section of diversion tunnel inlet is designed as invert D shaped from the entrance without transition section by considering limited room/space at the inlet area.